

GENERAL QUESTIONS ASKED BY CONTRACTORS

QUESTION 06:16-#1

Exhibit C1 Technical Exhibit Overview, page 3 of 5, 6. Tier 5 – Historian

If the Contractor proposes to use the existing King County OSI PI Historian for all historian functions, by providing a direct integration thus requiring no additional Historian, is the Contractor required to fill out Exhibit C6, Table 1.2.11? We would propose in this solution scenario that the Contractor only be required to detail the level of integration, and detailed functional aspects, and what would be required from the County to ensure this integration is complete and successful. Can you please confirm?

ANSWER 06:16-#1

1. Exhibit C6 is required to be filled out by all Contractors. Table 1.2.11 provides the County with an understanding of the proposed Historian and the understanding of the Contractors knowledge of integration with OSI PI or other proposed product with the SPCS & the R-SPCS.
2. The contractor is required to detail all aspects (contractor's and/or County) of the proposed work, be it the use of the County historian, or alternate proposed solution.

QUESTION 06:16-#2

Exhibit C1 Tier 0, page 11 of 20, 2.2.B.4

In this section it is noted that "all items required ... to provide a fully functional system...shall be included". Yet it is stated that we should exclude those items, such as data base, control logic, and graphic displays required to make the system "fully functional". We assume you mean fully functional in the context of the scope specified in the RFP. Can you please confirm?

ANSWER 06:16-#2

1. This understanding is correct "fully functional in the context of the scope specified in the RFP".
2. Citations of the RFP document, for reference:
 - Refer to the Questions/Answers June 6th, 2006 response document. The Answer 06:05-#2 addresses the programming and integration requirements. Also refer to Exhibit C7: Scope of Supply, Section 2 – Scope Of Supply,
 - 2.0 **Exhibit C1 System Specifications, Tier 0**
 - D. Not in the SPCS RFP Scope of Work
 - E. Included in the SPCS RFP Scope of Work

2.8 Testing General Scope Requirements

That defines the testing requirements of the RFP. Contractor shall perform and provide the necessary programming, data base, control logic, and graphic displays to make the system "fully functional" at each level of testing during the period of the RFP.

QUESTION 06:16-#3

Exhibit C1 Tier 0, page 13 of 20, 2.2.B.18

Is it your intention to require the Contractor to replace equipment as it becomes obsolete, or to just upgrade hardware and software under Contractor control? For instance, we both know that Dell workstations have about a three year useful life. If, "upgrade hardware and software under Contractor control" is King County's preference, can you please advise where is the line item in Exhibit C8 Tables C8-32 and C8-34 Contractor can provide a yearly update price?

ANSWER 06:16-#3

1. The responsibility to replace equipment as it becomes obsolete rests with the County. The Contractor is responsible “just to upgrade hardware and software under Contractor control”.
2. The contractor is to provide optional cost for maintenance agreements, equipment updates (not included in the maintenance agreements), license fees, and keeping system current through hardware and firmware upgrades in Table C8-36.
3. For software, refer to **Section 2 – Scope of Supply, 2.9** **Software Upgrade Requirements.**

QUESTION 06:16-#4

Exhibit C1 Tier 2, page 18 of 21, 2.3.F.2

Exhibit C1 Tier 4, page 5 of 23, 2.1.V.4

Upon reviewing this section we are concerned that outside of Rockwell only, the interface with the ControlLogix PLCs will not provide the same exact integration as a native DSP. It is a PLC that requires its own local database, configuration (and configuration tools), and maintenance and update schedule separate from that of the SPCS. Can you please clarify your requirements pertaining to this section?

ANSWER 06:16-#4

1. If PLC EWS is proposed to be a sub set of the SPCS EWS, the contractor needs to clearly identify it as such, and clearly describe its function, and also, describe how such solutions satisfies the specified overall SPCS functionality.
 - The contractor can propose alternatives based on specifics of the proposed system.
 - Base bid must be based on specified requirements; alternatives need to be listed separately in terms of options and costs.
 - The contractor needs to list exceptions as required in general by the RFP.

2. For more information, refer to:

Refer to **Section 2 – Scope of Supply,**

- 2.1 **Exhibit C1 System Specifications, Tier 1, B7 and B9**, which provide the system sizing rules for the Contractor.

Also refer to D.

“D. Provide all required hardware, software, communication licensing, and necessary steps to fully-integrate A-B ControlLogix series DFP to the SPCS. Integration of each A-B DFP into the SPCS network shall be through duplicate, and/or redundant, ethernet connections.”

- 2.2 **Exhibit C1 System Specifications, Tier 2, D**

The Contractor is to use the sizing rules to provide the County with a solution to integrate existing and future ControlLogix PLC. The proposals shall identify the hardware, software based on the proposed system that will provide an integrated system. Be specific in detailing the connection such as a integrated SPCS communication module, buffer gateway or software that is used to integrate the DFP. Identify, data memory mapping, configuration tools and all associated programs to make this happen. Identify maintenance and update schedule from the SPCS in terms of the EWS (such as a separate network through the SPCS EWS with the appropriate software and communication to integrate the DFP within the SPCS).

QUESTION 06:16-#5

Exhibit C1 Tier 3, page 17 of 22, 2.3.R

The 90 day system operational availability test requires zero down time for 90 days, meaning you have defined the MTBF as infinity. Can you please provide the statistical availability you require (99%? 99.9%? 99.999 %?) and the system can be priced accordingly.

ANSWER 06:16-#5

1. 99% or better is the required statistical availability.
2. Review citations from the RFP document as per below:
3. Refer to Exhibit C7: Scope of Supply, SECTION 2 – SCOPE OF SUPPLY,

2.8 Testing General Scope Requirements, 7. Site Acceptance Test (SAT). items a and I.

The 90 day system operational availability test refers to:

- a. The Contractor shall conduct a SAT at the South Treatment Plant, upon completion of the system installation of each ACC and the entire SPCS.“
- I. Demonstrate an availability of 99 percent or better for the system. Availability is as follows:
 1. (Test Duration – Downtime)/Test Duration.
 2. The system shall be considered down if an SPCS within an ACC cannot be accessed because of a hardware/software failure from the SPCS operator station; if an operational communications module is not polled; if alarm and event reporting functions are lost; if trend or historical data is lost; or if the operator commands cannot be carried out because of a hardware/software failure.
 3. Failure of equipment due to improper operation by the County shall not be counted in downtime.
 4. Fail over to a backup device shall not be counted as downtime provided the backup equipment assumed proper operation.”

QUESTION 06:16-#6

Exhibit C2 Drawing No. G000004 Normalized ACC I/O.

In general, what percent of the designated discrete outputs require 120 VAC Triac outputs and what percent require relay form C outputs?

ANSWER 06:16-#6

25% shall be form C outputs, and 70% shall be triac outputs.

Please note this is a clarification to the RFP text which states:

Refer to Exhibit C1: Technical Specifications, Tier 2 – Controllers, 2.2 **Hardware Requirements**, B. Distributed Supervisory Processor (DSP) Equipment, 14. That identified all DO are to be “a) 120 VAC, 2 A nominal continuous rating Triac.”

QUESTION 06:16-#7

Exhibit C2 Drawing No. G000004, Normalized ACC Definitions, TI545/565.

1R denotes one redundant TI565 processor or four redundant processors?

ANSWER 06:16-#7

1. 1R denotes one redundant TI565 processor.

QUESTION 06:16-#8

Exhibit C8 Tables C8-32 and C8-34

Referenced in Exhibit C1, Tier 0, 1.2.C.3 (page 2 of 20) and described in Part B, Attachment P

In reviewing this set of requirements, we believe it would be in King County's best interest to broaden the response requirements to ensure Contractor respondents are fully clear on:

- a. They are capable of offering a yearly maintenance and solution component agreement
- b. What specifically is entailed in the proposed maintenance and solution agreement
- c. What is specifically excluded
- d. What is the price for such an agreement based on a (1) year, (3) year, (5) year and (10) year agreement?
- e. Where would the agreement be administered from (location?)
- f. What is the guaranteed response times (with monetary penalties associated with lack of performance) for the proposed agreement?

Based on other Municipalities such as King County, which we have provided solutions for, we believe this information will be critical in calculating overall, long term system life cycle costs.

ANSWER 06:16-#8

1. The contractor is required to provide response enabling the County to review overall competency of the response, and thus the contractor's organization and ability to provide level of service required for support of the SPCS as defined, using best practices and contractor's experience. County will evaluate the quality and depth of each response, and where necessary, ask for clarifying information. By means of issuing this question and answer to all contractors, the County is in agreement with the stated assertions.

QUESTION 06:16-#9

Long Term Proposed Solution Viability / Sustainability

In the pre-Bid meeting we believe the topic of "Whatever the Contractor proposes for their solution set today, must be supportable for a minimum period of no less than (10) years." In dealing with other Municipalities such as King County, this requirement was a critical decision factor in selecting a Partner/Supplier/Contractor who could offer and guarantee complete product support, ongoing product development and availability of replacement parts for a minimum of (10) years.

- a. To this end, we would recommend King County add the following additional requirements to the RFP in this area to ensure complete visibility around procuring an automation, control and information solution today which can be sustained over a minimum (10) year timeframe:
- b. Contractor shall outline the migration path for the proposed solution as technology advancements occur over the next (10) years and how the City will receive these improvements
 - i. Will there be an additional cost to King County for this Service?
- c. Contractor shall confirm their ability to guarantee support (trained personnel on the proposed solution, availability of spare parts, ongoing development and enhancement....) over a minimum (10) year timeframe.
- d. Contractor shall confirm their ability to guarantee migration without changing the overall base product architecture, without having to completely re-write the automation/application configuration, and without losing key major functionality, implemented during the initial implementation.

ANSWER 06:16-#9

1. The contractor is required to provide response enabling the County to review overall competency of the response, and thus the contractor's organization and ability to provide level of service required for support of the SPCS as defined, using best practices and contractor's experience. By means of issuing this question and answer to all contractors, the County is in agreement with the stated assertions.
2. Information is requested in this RFP which largely addresses these items.
3. County encourages submission of all related information which contractor may wish to share with regards to long term support and other services.

QUESTION 06:16-#10

Alternate / Creative Additional Solution Offerings

In the pre-Bid meeting we believe the topic of "Contractors ability to propose (in addition to the base King County RFP requirement response) alternate, cost effective and or creative approaches / solutions.

Can you please confirm that adding a section to our RFP response which contains information in this subject area is acceptable to King County?

ANSWER 06:16-#10

1. The County encourages the Contractor to be creative thinkers (thinking outside of the box), and identify the alternative(s) as optional item(s) within the proposal table of content, identifying associated documents, drawings and table references such as C7-36 and C8-36.

QUESTION 06:17-#1

Do to the extension in the bid due date to June 29th, 2006, would it be possible to obtain a revised Part "A" section 1.6 Schedule. This would be very helpful as we tentatively schedule resources for the upcoming requirements.

ANSWER 06:17-#1

2. Refer to the general questions asked by contractors dated June 6th, 2006, document, answer 06:05-#1, for question 06:05-#1.

"Yes, the RFP phase 2 functional verification test date will be extended by an appropriate amount of time corresponding to the RFP due date extension. Actual date is to be announced prior to or with short list notification."

QUESTION 06:19-#1

Re: "1000 concurrent users at the corporate level...web-based connections to the R-SPCS"

Do you expect 1000 users to be simultaneously requesting web-based information (especially live information such as process displays) or is this the total number of named users or devices that will require the ability to connect at some time or other? Concurrent licensing is typically employed to reduce licensing and hardware costs by estimating simultaneous users at some fraction of the total user base and then allocating sessions on a "first come-first serve" basis.

ANSWER 06:19-#1

At the corporate level the R-SPCS shall be able to handle 1000 simultaneously users. In reality 1000 users may not need to access the information simultaneously but the system must handle the requirements without affecting the functionality, reliability, operability and maintainability of the system. In the normalized structure provide the design as indicated and in Table C7-36 and C8-36 for optional items, provide bill of material and pricing for 100, 200, 500, and 800 users.

QUESTION 06:19-#2

Section 1.1

- A. The test shall demonstrate the integration of the proposal's hardware, software, and communications.
3. Connectivity and integration to the County's current hardware, such as ControlLogix, TI PLC, and Forney DCS
- Q. Are we required to connect to the TI PLC and Forney DCS to demonstrate the communications?

ANSWER 06:19-#2

Yes, the contractor is required to connect to the existing TI and Forney systems. This integration to the existing infrastructure shall be part of the FVT. Refer to Section 3 – Products & Submittals, 3.1 General, Submittals For Review

1. Provide a written description of the hardware, software, and testing equipment that shall be supplied for this test.
2. Provide a network architecture drawing identifying the proposed components of the SPCS and R-SPCS; which Contractor components shall be supplied; which components will be provided by the County; and any additional resources required to perform the FVT.

QUESTION 06:19-#3

Section 2.2

- C. Remote Offsite Facility

Provide the hardware, software, and communications to demonstrate the monitoring and control of two remote sites (unmanned pump stations) by the SPCS at the South treatment Plant using ModBus protocol and 1200-baud modems on a multipoint line. Provide a remote site monitoring and control by the SPCS at the WestPoint Treatment Plant using ModBus protocol.

- Q. Is we required to take control of two remote pumping stations?
- Q. What processor is currently in control of these pumps?
- Q. If we are to control, do we need to change the current controller so that we can take control?

ANSWER 06:19-#3

The contractor is not required to take alive control of the remote pumping stations.

Drawings G000009 and G000010 have been provided to illustrate the scope of the County's requirements.

It is the intent that the Contractor provides all the necessary hardware, software, and testing equipment for the FVT including lease lines and associated hardware, with the exception of the ControlLogix, TI PLC, and Forney DCS as illustrated in drawing G000010.

There is no intention for the Contractor to connect to a live County system, however, there is an intent for the Contractor to connect to "equivalent" hardware to prove the concept.

QUESTION 06:19-#4

Section 2.3

1. Demonstrate simulation logic for processor-to-processor control of direct automatic process control coordination between the facilities through a high level application programming of automatic logic. This logic shall consist of a plant overview screen, diagnostics, and a simulation of various processes. The DSP hardware, software, and communications shall represent the Contractor's proposed system. Cabinetry, field device power supplies, and a variety of I/O cards with field

devices shall be terminated and tested. Provide I/O modules, complete with all mounting hardware and interconnecting cables, and the same complement of I/O cards, termination modules, and cables as supplied for a typical plant SPCS panel. Refer to Drawing 9, Function Verification Test Overview, and Drawing 10, Function Verification Test Detail, which illustrate the requirements of the test. Demonstrate the following:

Q. Are we to provide an enclosure and all field devices to satisfy this requirement?

ANSWER 06:19-#4

The contractor is advised to keep the set up for the FVT practical and realistic.

The intent of the FVT is to provide a proof of concept test for the SPCS and the R-SPCS that demonstrates the integrated system hardware, software, and communications as described in Exhibit C1, System Specifications.

It is at the discretion of the Contractor to provide the necessary components to satisfy the requirements so that the County evaluators can obtain a true representation of the proposed system. Exhibit C4, Section 3 – Products & Submittals, 3.1 General, Submittals For Review is used by the Contractor to list out the components that will be provided for the FVT.

QUESTION 06:19-#5

Section 2.3

2. Provide a demonstration of the proposed simulation logic for processor-to-processor the following:
 - a. Redundant interface to A-B ControlLogix PLC
 - b. Simplex interface to Texas Instruments PLC Interface, for TI530, 545, and 565
 - c. Simplex interface to HFC Forney DCS

Q. What are the processor to processor requirements?

ANSWER 06:19-#5

The processor to processor connectivity, connection and controllability is an important aspect of the FVT. The Contractor shall demonstrate processor-to-processor communications, control, and monitoring for the purpose of fully automatic process control, within plant and regionally. A minimum of 100 data points in each processors shall be demonstrated to communicate to the DSP.

QUESTION 06:19-#6

Section 2.3

4. Demonstrate the overall R-SPCS and SPCS HMI-based local and remote monitoring of all of the County's plants and facilities, including integrated alarming, trending, reporting, navigation, security, enabling of remote monitoring, and control through HMI from any plant to any plant. Demonstrate an integrated EWS that enables configuration, logic, firmware, database and graphic changes, and modification.

Q. Are we required to capture alarms from TI and the Forney DCS? This would include Ack of the alarms.

Q. If so, are the current alarms documented?

Exhibit C4 has some inconsistencies in it or I am not reading it correctly. Some sections indicate that we are to simulate control. Other sections indicate full control of field devices and alarming.

If we are to control field devices through the TI's and Forney DCS we would need to determine what this would require. I have no experience with Forney and limited with TI's. Would this control

require additional code to be written in these other controllers? Do we have the resources and software/hardware to determine this?

ANSWER 06:19-#6

Contractor FVT solutions shall capture live alarms from TI and Forney systems, and be able to acknowledge them.

Alarm documentation will be provided to the short listed contractors.

Further FVT clarifications will be provided to the short-listed contractors.

Pre functional verification testing meeting will be scheduled to provide further clarifications, instructions and testing requirements such that all short listed contractor have exacting definitions of what needs to be done, demonstrated and how during the FVT.

The County shall provide assistance with the TI's and Forney DCS during the FVT.

QUESTION 06:20-#1

Exhibit C4 System Functionality Verification Test, page 5 of 15, 6. Tier 4 – 2.1

What is the expected “logistical set-up and staging” time allotment” for each supplier who makes it to PHASE-2 (FVT), prior to the commencement of the FVT?

ANSWER 06:20-#1

Refer to the answer to Question 06:19-#6 above.

QUESTION 06:20-#2

Exhibit C4 System Functionality Verification Test, page5 of 15, 6. Tier 4 – 2.3. A.1

Does the County expect the contractor to make an actual production cabinet, complete with project components which are contained on our bill of materials, necessary to perform the FVT, or will a representative demo configuration be acceptable?

ANSWER 06:20-#2

Refer to the answer to Question 06:19-#4 above.

QUESTION 06:20-#3

Exhibit C4 System Functionality Verification Test, page5 of 15, 6. Tier 4 – 2.3.A.1 & 2

What equipment specific to King County (i.e. TI PLC, HFC Forney DCS, Device Net or Profibus equipment (MMC or VFD) will the County be supplying for contractors use during the FVT?

ANSWER 06:20-#3

Refer to the answer to Question 06:19-#3 and 06:19-#4 above.

QUESTION 06:20-#4

Exhibit C4 System Functionality Verification Test, page5 of 15, 6. Tier 4 – 2.3.A.4

What level of access to County owned PI Historian and County WAN will be permitted to the Contractor conducting the FVT in order to demonstrate Tier 5, 6 & 7 capabilities?

ANSWER 06:20-#4

Refer to the answer to Question 06:19-#6 above.

In general, the contractor will be granted as much access as required to be able to successfully demonstrate the proposed system performance.

END OF GENERAL QUESTIONS ASKED BY CONTRACTORS

Clarification:

Clarification for Subsection 2.5.1 Pricing:

The proposal price evaluation will be scored based upon the 10 year pricing structure and life cycle cost. The total 10 year pricing structure, will include manufactures discount and escalation factors proposed by the Contractor. Refer to the response form in Exhibit C8 of the RFP.

-End of Clarifications.